

Enclosure

Revision to the Wisconsin NPDES Program for Effluent Standards and Limitations for Phosphorus

Wisconsin amended its Chapter NR 217 “Effluent Standards and Limitations for Phosphorus” by adding Subchapter III, NR ss. 217.10-217.19 “Water Quality-Based Effluent Limitations for Phosphorus” in 2010. Except for s. NR 217.19, the U.S. Environmental Protection Agency reviewed these regulations for consistency with 40 C.F.R. § 123.25(a). In addition, EPA reviewed the compliance schedule authorizing provisions in ss. NR 217.17 and 217.18 under section 303(c) of the Clean Water Act (CWA), 33 U.S.C. § 1313.

EPA review of NR 217, Subchapter III, Wisconsin Administrative Code

Wisconsin added the following provisions in Chapter NR 217, Subchapter III:

217.10	Applicability
217.11	Definitions
217.12	General
217.13	Calculation of water quality based effluent limitations for phosphorus
217.14	Expression of limitations
217.15	Determination of necessity for water quality based effluent limitations for phosphorus
217.16	Relationship of WQBELs and TMDL based limitations
217.17	Schedules of compliance
217.18	Watershed adaptive management option
217.19	Variances for stabilization ponds and lagoon systems

EPA addressed s. NR 217.19 and the compliance schedule authorizing provision in s. 217.17 on December 30, 2010 as part of its approval of the phosphorus water quality criteria. EPA approves ss. NR 217.10, 217.11, 217.12, 217.13, 217.14, 217.15, 217.16, 217.17, and 217.18 as discussed below. EPA is approving ss. NR 217.14(2) and 217.18 based, in part, on an addendum to the National Pollutant Discharge Elimination System (NPDES) Memorandum of Agreement (“MOA”) between the Wisconsin Department of Natural Resources (“WDNR” or “the Department”) and EPA concerning implementation of these provisions, as discussed below. Finally, EPA approves the compliance schedule authorizing provisions in s. NR 217.18(3) under CWA § 303(c) based on the fact that compliance schedules, including those established under s. NR 217.18(3), are subject to s. NR 217.17, 40 C.F.R. § 122.47, and the signed MOA Addendum.

Prior to this approval, EPA consulted with the Wisconsin tribes on the draft MOA and WDNR’s NPDES rules. On May 4, 2011, EPA issued its Policy on Consultation and Coordination with Indian Tribes. While EPA is in a transition period of determining when it is appropriate to consult under this Policy, and working with tribes as part of this process, EPA Region 5 decided in this instance to consult with tribes on its pending decision concerning

Wisconsin's NPDES rules for the new phosphorus water quality criteria, rather than wait until the process for implementing the policy is more developed. EPA participated in conference calls with the tribes and provided an opportunity for the tribes to comment. The tribes were overall supportive of the NPDES rules implementing the phosphorus water quality standards. The Bad River Band of Lake Superior Tribe of Chippewa Indians had comments which are included in the cover letter.

EPA Approval

1. s. NR 217.10 Wis. Adm. Code: Applicability. This section contains the applicability statement for Chapter NR 217, Subchapter III. It specifies that the Subchapter is applicable to four specified categories of point sources, including, but not limited to, publicly and privately owned wastewater facilities or treatment works. EPA asked WDNR to clarify that point sources not covered under s. NR 217.10 may still be subject to a requirement for a water quality-based effluent limitation (WQBEL) for phosphorus under Wis. Stat. section 283.13(5), which provides that WDNR shall establish more stringent effluent limitations if these limitations are necessary to meet applicable water quality standards, or any other state or federal law or regulations. WDNR added a footnote to clarify this point. Thus, this provision makes clear that other point sources may need phosphorus WQBELs in permits to meet the criteria in s. NR 102.06, even if they are not subject to Subchapter III, Chapter NR 217.

EPA approves s. NR 217.10 Wis. Adm. Code.

2. s. NR 217.11 Wis. Adm. Code: Definitions. This section contains definitions that apply solely for carrying out Subchapter III. WDNR added a definition of "new discharger" which, unlike EPA's definition of new discharger in 40 C.F.R. § 122.2, does not exclude new sources from the definition. However, the lack of an exclusion for new sources is not consequential given the narrow applicability of the term "new discharger" as well as its use in Subchapter III.

In addition, WDNR added a definition of "privately owned treatment works" to address EPA's concern that this term, as used in s. 217.10, could be interpreted to exclude commercial and industrial sources which discharge process wastewater. WDNR's definition makes clear that the term as used in Subchapter III includes industrial and commercial sources which discharge process wastewater.

EPA approves s. NR 217.11 Wis. Adm. Code.

3. s. NR 217.12 Wis. Adm. Code: General. This section contains the Department's authority to establish WQBELs for phosphorus. WDNR revised its proposed regulation to address EPA's comments that, to match the language in EPA's regulations at 40 C.F.R. § 122.44(d)(1)(i) and (ii), Wisconsin should revise ss. NR 217.12(1)(a), 217.15(1)(a) and 217.15(1)(c) to provide that WQBELs for phosphorus shall be included in a permit whenever

WDNR determines that the discharge from a point source contains phosphorus at concentrations which will cause, have a reasonable potential to cause, or contribute to an excursion above the phosphorus water quality criterion. WDNR did this. Section NR 217.12(a) states that the Department shall set WQBELs for discharges that will cause, have the reasonable potential to cause or contribute to an exceedance of the criteria in s. NR 102.06 in either the receiving water or downstream waters.

Regarding downstream waters, 40 C.F.R. § 122.4(d) prohibits issuance of permits when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states.¹ Section NR 217.12(a) is not clear on its face that it means downstream waters in other states, as well as Wisconsin waters. However, Wisconsin has authority to take downstream impacts in affected states into account in calculating effluent limits. Wis. Stats. sections 283.31(3) and (5) provide WDNR authority for applying 40 C.F.R. § 122.4(d) if necessary to ensure compliance with water quality requirements of all affected states. Wisconsin has confirmed it has this authority. In a January 19, 2012 letter to WDNR, Wisconsin's Attorney General stated that in Wisconsin provisions allowing the Department to establish WQBELs necessary to protect downstream waters, "downstream waters" includes navigable waters of the U.S. that are protected by state and tribal water quality standards. EPA expects WDNR to take the potential for downstream impacts into account and retains the authority to object to a permit if the permit does not ensure compliance with applicable water quality requirements of affected states and tribes.

Based on the foregoing discussion, EPA approves s. NR 217.12 Wis. Adm. Code.

4. s. NR 217.13 Wis. Adm. Code: Calculation of water quality-based effluent limitations for phosphorus. This provision provides procedures for calculating a WQBEL for phosphorus for discharges to streams and rivers, inland lakes and reservoirs, and the Great Lakes. Several paragraphs are discussed below.

Section NR 217.13(4) provides that WDNR will establish WQBELs for discharges directly to the Great Lakes consistent with near shore or whole lake model results approved by WDNR. Sections NR 217.12 and 217.15 make clear that WDNR must determine whether a discharger will cause, have a reasonable potential to cause, or contribute to an excursion beyond the applicable phosphorus water quality criterion. These sections also make clear that WDNR is required to set a WQBEL when the Department determines that a discharge will cause, have the reasonable potential to cause, or contribute to an excursion above the phosphorus water quality criterion. Thus, Wisconsin is required by ss. 217.12 and 217.15 to identify a model with which it will calculate WQBELs for discharges into the Great Lakes, and actually establish such limits when required under ss. NR 217.12 and 217.15.

¹ 40 C.F.R. § 122.2 defines the term "state" to include Indian Tribes.

Section NR 217.13(8) provides that a new discharger will not be able to discharge phosphorus in a phosphorus impaired water unless, among other things, the discharge will “improve water quality in the phosphorus impaired segment.” In response to comments on this provision, WDNR said that “New dischargers could improve water quality in a receiving water in a number of ways. For example, a large effluent volume with a very low phosphorus concentration--well below the applicable criterion--would improve water quality. The department will make this determination on a case-by-case basis.” To show an “improvement” in water quality, EPA expects that the permittee will demonstrate that its discharge will result in a decrease in the phosphorus concentration or loading in the receiving water.

Section NR 217.13(8) also provides an exception for a new discharger if it can demonstrate that the new phosphorus load will be offset through a phosphorus trade. Section NR 217.17(3)(f) also addresses pollutant trading. EPA has developed guidance on pollutant trading that sets out necessary terms and conditions of a trade. See “The Water Quality Trading Policy” and “The Water Quality Trading Toolkit for Permit Writers” (2007, EPA-833-R-07-004, and <http://water.epa.gov/type/watersheds/trading/WQTTToolkit.cfm>). Generally, EPA recommends that trade programs include several elements to ensure credibility and compliance with water quality standards. These elements include:

- Applying CWA regulations and established state law provisions to provide legal authority for administration of water quality trade programs.
- Clearly defining a common unit of trade.
- Generating credits before or during the same time period they are to be used to comply with permit limits.
- Including methods for managing uncertainty such as using trading ratios, modeling, and best management practice efficacy estimates.
- Ambient water quality monitoring, in addition to effluent monitoring requirements in NPDES permits. Samples should be collected at strategic locations to ensure progress in meeting water quality standards.
- Compliance and enforcement mechanisms, including a combination of record-keeping, certifications, inspections, and reporting.
- Provisions for adequate public notice through, for example, the TMDL and permit process and a public website.
- Trade programs should be evaluated in order to modify and make improvements to the program.

Sections 217.13(8) and 217.17(3)(f) do not include anything that is inconsistent with EPA’s trading policy. In particular, s. NR 217.13(8) says that the offset through a phosphorus trade must be implemented prior to the new discharge, and the note to s. NR 217.14 states that trades must be incorporated into the permit and approved by the Department prior to

implementation.² EPA understands that WDNR is currently working on promulgating trading provisions.

EPA approves s. NR 217.13 Wis. Adm. Code.

5. s. NR 217.14 Wis. Adm. Code: Expression of limitations. Section NR 217.14(1) requires that limits be expressed as a concentration, and as a mass limit for certain identified waters, including outstanding resource waters (ORWs) and exceptional resource waters (ERWs). WDNR may establish mass limitations in permits for any other discharges of phosphorus where an increase in phosphorus load is likely to result in adverse effects on water quality in the receiving water or downstream water. Under 40 C.F.R. §122.45(f) mass limits must be included in permits except when the applicable standard is expressed in other units of measurement. Here, the phosphorus water quality criteria in s. NR 102.06 are expressed in terms of concentration, so EPA's regulations do not mandate mass limitations. The Bad River Tribe, in its comments to EPA, asked for confirmation that WDNR will include a mass limit in permits for phosphorus discharges when the receiving water or downstream water is designated as an ERW or ORW by the Tribe. As noted earlier, Wisconsin concludes that its provisions allowing the Department to establish WQBELs necessary to protect downstream waters includes authority to protect waters protected by other state and tribal water quality standards. EPA asks WDNR to confirm in guidance or by letter to EPA that the Section 217.14(1) requirement concerning mass limits applies to receiving and downstream waters on tribal lands designated by a tribe as ORW or ERW. If the confirmation is included in guidance, please provide EPA a copy of the revised guidance.

Section NR 217.14(2) and (3) provides that the Department will express effluent limits as a monthly average in permits, except for concentrations of less than or equal to 0.3 milligrams per liter (mg/L) where limitations may be expressed as annual averages. The CWA section 402(c)(2) specifically requires NPDES permits to include all the conditions that are required under 40 C.F.R. § 122.45 (made applicable to state NPDES programs by 40 C.F.R. §123.25(a)(16)). Section § 122.45(d) provides that for continuous dischargers, all effluent limitations necessary to achieve water quality standards shall, unless impracticable, be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly-owned treatment works (POTWs) and average weekly and average monthly discharge limitations for POTWs.

Based on discussions with EPA, WDNR developed a Justification Paper for use of averaging periods for expression of WQBELs for phosphorus other than the averaging periods in 40 C.F.R. § 122.45(d). WDNR set out the basis for impracticability of weekly and daily limits,

² In approving Subchapter III, EPA's approval does not extend to the notes to s. NR 217.14 or to notes in any other section.

and also, when the phosphorus wasteload allocation (WLA) is 0.3 mg/L or less, that monthly limits may be impracticable. WDNR explains that its phosphorus criteria were developed based on correlations between median growing season phosphorus concentrations and biotic indices, and that this is consistent with EPA guidance for nutrient criteria development. WDNR evaluated several studies on the response of fresh waters to phosphorus. Further, WDNR relied on a March 3, 2004 memorandum from James Hanlon, Director of EPA's Office of Wastewater Management, "Annual Permit Limits for Nitrogen and Phosphorus for Permits Designed to Protect Chesapeake Bay and its Tidal Tributaries from Excess Nutrient Loading under the National Pollutant Discharge Elimination System." In this 2004 memorandum, EPA concluded that annual average limits were appropriate for nitrogen and phosphorus in the Chesapeake Bay and that it was impracticable in that case to express such limits as daily/weekly/monthly average values. WDNR noted that the EPA memo indicates that the nature of the water quality problem can be used to determine impracticability.

WDNR then relied on the information above to support its conclusion that due to the nature of phosphorus loadings and the manner in which its phosphorus water quality standards were derived, daily and weekly limits were impracticable. Further, that monthly limits may be impracticable when the WLA is 0.3 mg/L or less, as is recognized in Wisconsin s. NR 217.14(2). For rivers, streams, reservoirs and lakes with residence time of less than one year, where the WLA is 0.3 mg/L or less, the Justification Paper provides that WDNR may establish a monthly average or six-month average limit. When it sets a six-month average limit, the Justification Paper provides that WDNR will also set a monthly limit of 3 times the WLA. For lakes and reservoirs with a residence time of one year or more, where the WLA is 0.3 mg/L or less, the Justification Paper provides that WDNR may establish a six-month average or annual average limit along with a monthly limit of 3 times the WLA. WDNR signed an addendum to the EPA-WDNR NPDES MOA confirming that WDNR will implement 217.14(2) in this manner. EPA expects the State will have to modify its Enforcement Management System to describe the way in which it will manage seasonal and annual average phosphorus limits in its compliance evaluation and enforcement program.

EPA approves s. NR 217.14 Wis. Adm. Code.

6. s. NR 217.15 Wis. Adm. Code: Determination of necessity for water quality-based effluent limitations for phosphorus. This section requires WDNR to determine when WQBELs are required for phosphorus. Sections 301 and 402 of the CWA require NPDES permits to include effluent limitations as needed for discharges to meet water quality standards. The regulation at 40 C.F.R. § 122.44(d) requires the permit-issuing agency to: (1) determine whether point source discharges will cause, have a reasonable potential to cause, or contribute to an excursion beyond applicable water quality criteria; and (2) when the agency makes an affirmative determination, set WQBELs that are derived from and comply with water quality standards. Section NR 217.15 requires a WQBEL where the Department makes an affirmative

determination on reasonable potential. It establishes procedures for the Department to make this determination.

In response to a comment from EPA to address the situation where phosphorus data are not available, WDNR revised its rule to provide that where phosphorus data are not available, it may require phosphorus sampling as part of a permit application or use effluent data from similar point sources to make a determination as to whether the point source discharge will cause, have a reasonable potential to cause, or contribute to an excursion beyond the phosphorus water quality criterion. This addressed the concern raised by EPA on the proposed rule.

EPA approves s. NR 217.15 Wis. Adm. Code.

7. s. NR 217.16 Wis. Adm. Code: Relationship of WQBELs and TMDL based limitations. Section NR 217.16 provides WDNR authority to establish a WQBEL consistent with the waste load allocation and assumptions of an EPA approved TMDL that is designed to achieve water quality standards for the waterbody. EPA expects that a limit based on a TMDL will be derived from, and comply with, the applicable phosphorus criteria in NR 102 Wis. Adm. Code in order to be in conformance with 40 C.F.R. § 122.44(d)(1)(vii)(A). Additionally, pursuant to s. NR 217.16(4) if the WQBEL based on an approved TMDL is more stringent than the WQBEL calculated under s. NR 217.13, the Department must include the more stringent TMDL based limitation in the permit. Thus, Wisconsin has the authority to issue permits consistent with the assumptions and requirements of a TMDL's wasteload allocation and is required to do so by s. NR 217.16(4).

EPA expressed a concern that the proposed rule at NR 217.16(3) appeared to allow the state to modify or reissue the permit to include a less stringent limit based on an approved TMDL. WDNR revised its rule to clarify that if a phosphorus WQBEL calculated under s. NR 217.13 has already taken effect in a permit, the Department may replace the limit with a less stringent TMDL-based limit only if allowed pursuant to antidegradation procedures in ch. NR 207. In a July 2011 letter, EPA told WDNR that Wisconsin's NPDES program does not have a provision that conforms to 40 C.F.R. § 122.44(l) (antibacksliding). This regulation is applicable to states under 40 C.F.R. § 123.25(a)(15). In an October 2011 reply letter, WDNR said that it will amend the Wisconsin Administrative Code or seek a statutory amendment to establish antibacksliding provisions for the Wisconsin NPDES program. Until Wisconsin establishes antibacksliding provisions, the Department cannot replace a limit calculated under s. NR 217.13 with a less stringent TMDL-based limit unless the replacement conforms to 40 C.F.R. § 122.44(l). EPA retains its authority to review and object to a permit that contains a limit which is less stringent than contained in the prior permit.³

³ EPA's approval does not extend to the note inserted at the end of s. NR 217.16(3).

Section NR 217.16 (2) provides that WDNR may include a schedule of compliance to achieve a TMDL-based limit, if the department determines a schedule of compliance is necessary. All of the compliance schedule provisions set out in s. NR 217.17, including the required findings that a schedule of compliance will lead to compliance with the WQBEL as soon as possible and that a compliance schedule is appropriate and necessary, apply to any compliance schedule developed under s. NR 217.16. EPA retains its authority to review and object to a permit if it contains a compliance schedule that is not in conformance with 40 C.F.R. § 122.47.

Based on the foregoing discussion, EPA approves s. NR 217.16 Wis. Adm. Code.

8. s. 217.17 Wis. Adm. Code: Schedules of compliance. This section sets out the conditions under which WDNR may provide a schedule of compliance for a WQBEL, and the criteria for WDNR making a determination as to whether a compliance schedule is appropriate. It also provides the terms and conditions for schedules of compliance. EPA reviewed this provision, within the context of current Wisconsin law, for consistency with the CWA section 502(17) and 40 C.F.R. § 122.47. Section 502(17) defines a schedule of compliance as “a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.” Wisconsin defines the term using identical language. *See* Wis. Stat. section 283.01(15) and s. NR 205.03(32) Wis. Adm. Code. Under 40 C.F.R. § 122.47, permits can include compliance schedules when appropriate, and must require compliance with the WQBEL as soon as possible. In granting a compliance schedule in a permit, WDNR must make a finding, supported by the administrative record and described in the fact sheet that a compliance schedule is appropriate and that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit. Such finding should set out the basis for its determination that a compliance schedule is appropriate and that the discharger cannot immediately comply with the WQBEL. WDNR should not presume that a compliance schedule be based on the maximum time period allowed in s. NR 217.17(2). The permittee must establish the need for a compliance schedule and for how much time is necessary to achieve compliance. Where such schedules exceed one year, permits must set forth interim requirements and the dates for achievement of the interim requirements. 40 CFR § 122.47(a)(3).

Wis. Stats. section 283.01(15) and ss. NR 205.03(32) and 217.17 Wis. Adm. Code include provisions that conform to the CWA section 502(17) and 40 C.F.R. § 122.47. If a NPDES permit is issued with a compliance schedule that extends past the expiration date of a permit, then the permit must include the final effluent limitations and any interim or final requirements that apply after permit expiration must be enforceable. Interim and final requirements must be expressed in terms of actions or operations leading to compliance with the WQBEL. To the extent WDNR writes guidance implementing s. NR 217.17, WDNR should

ensure such guidance conforms to Wis. Stats. section 283.01(15), ss. NR 205.03(32) and 217.17, and 40 C.F.R. § 122.47.

Section NR 217.17(3)(f) provides that if a permittee chooses to use pollutant trading to achieve compliance with a WQBEL, then the terms and conditions related to the trade shall be incorporated into the permit. This section seems misplaced in s. NR 217.17. As previously noted, this provision does not contain any statements inconsistent with EPA's "Water Quality Trading Policy" (2003). Pollutant trading is allowed to meet a WQBEL. However, the details of the trade must be established prior to permit issuance and incorporated into the permit. If a permittee engages in pollutant trading to comply with a limit, it is not appropriate to allow a compliance schedule to give a discharger time to establish the terms of a trade. Trades must be established at the time of permit issuance or modification.

Based on the foregoing discussion, EPA approves s. NR 217.17 Wis. Adm. Code.

9. s. NR 217.18 Wis. Adm. Code: Watershed adaptive management option. Section NR 217.18 provides an option for permittees to request the issuance of an Adaptive Management NPDES permit as a means to achieve compliance with the water quality standard for the waterbody and the WQBEL. This option is based on the permittee implementing point source and nonpoint source net watershed-scale pollutant reductions that will result in certain Wisconsin waters achieving phosphorus water quality standards in s. NR 102.06 Wis. Adm. Code.

There are several key provisions to this option. Section NR 217.18(3)(e)(1) requires that the permit contain a final and enforceable WQBEL. Section NR 217.18(2)(d) requires the permittee to submit an adaptive management plan with the application for permit re-issuance, with said plan identifying specific actions to achieve the applicable phosphorus criteria through verifiable reductions of phosphorus from point and nonpoint sources. Such adaptive management actions with goals and measures must be included in the permit (s. NR 217.18(3)(b)) and the permit must include a statement that failure to implement any of the terms and conditions established under s. NR 217.18(3) is a violation of the permit. EPA will be reviewing permits issued under this option carefully.

Given that nonpoint sources may be significant contributors of phosphorus in surface water, the adaptive management approach with its focus on reducing nonpoint sources as well as point source loadings to meet the water quality criteria may be a workable solution for phosphorus pollution. This approach could result in achieving the phosphorus water quality criteria for the waterbody where the more traditional approach of relying solely on the permittee meeting its WQBEL may not.

EPA is approving s. NR 217.18 based on WDNR signing an addendum to the MOA with EPA, on April 30, 2012, agreeing to implement this provision in a manner that conforms to 40 C.F.R. §§ 122.44(d), 122.44(l), 122.47, and 122.62. More specifically, the initial permit issued

and all reissued or modified permits under the adaptive management provision will include the final WQBEL and identify the subset of adaptive management actions that offset the mass of phosphorus which corresponds to the difference between the interim effluent limitation and the WQBEL. Secondly, the initial adaptive management permits will include a complete compliance schedule that sets out all the actions in the approved adaptive management plan to achieve the phosphorus water quality criterion. The schedule can contain the interim effluent limitations, and must identify adaptive management actions that will result in verifiable pollution reductions that equate to the increment between the interim limit and the WQBEL. For all compliance schedules, WDNR needs to meet the requirements in Wis. Stats. section 283.01(15) and ss. 205.03(32) and NR 217.17 Wis. Adm. Code. In particular the record should support a determination that a compliance schedule is appropriate and necessary and will lead to compliance with the WQBEL and water quality standard as soon as possible.